

## General

### Title

Diagnosis and treatment of osteoporosis: percentage of patients who were assessed for risk factors for osteoporosis during an annual preventive visit.

### Source(s)

Florence R, Allen S, Benedict L, Compo R, Jensen A, Kalogeropoulou D, Kearns A, Larson S, Mallen E, O'Day K, Peltier A, Webb B. Diagnosis and treatment of osteoporosis. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2013 Jul. 87 p. [210 references]

## Measure Domain

### Primary Measure Domain

Clinical Quality Measures: Process

### Secondary Measure Domain

Does not apply to this measure

## Brief Abstract

### Description

This measure is used to assess the percentage of patients 18 years and older who were assessed for risk factors for osteoporosis during an annual preventive visit.

### Rationale

The priority aim addressed by this measure is to increase percentage of patients age 18 years and older who are evaluated for osteoporosis risk factors during an annual preventive visit.

Osteoporosis is a generalized skeletal disorder characterized by compromised bone strength and deterioration of bone quality, often leading to fragility (low trauma) fractures. The World Health Organization (WHO) defines osteoporosis as a bone density of 2.5 standard deviations or more below a reference group of young Caucasian females (WHO, 2004). A low bone mass is frequently found, but not required, for the diagnosis. (A fragility fracture, regardless of the bone mass, necessitates the diagnosis.)

Osteoporosis is by far the most common bone disease (WHO, 2004). Osteoporosis can be a primary disorder or can be caused by a host of other factors (e.g., diseases, lifestyle, medications, etc.). The impact of this disorder is massive in terms of cost, morbidity and mortality. An estimated 1.5 million individuals suffer a fragility fracture annually (Riggs et al., 1998). An estimated 40% of women and 25% to 33% of men during their lifetime will suffer a hip, spine or wrist fracture in their lifetime (Binkley et al., 2006). Projections indicate a two- to threefold increase in osteoporosis by 2040 (U.S. Preventive Services Task Force, 2012).

The major challenges facing this field currently include low rates of initial screening with dual-energy X-ray absorptiometry (DXA), lack of initial treatment in cases with a high fracture risk, and poor adherence with prescribed treatment.

## Evidence for Rationale

Binkley N, Bilezikian JP, Kendler DL, Leib ES, Lewiecki EM, Petak SM, International Society for Clinical Densitometry. Official positions of the International Society for Clinical Densitometry and Executive Summary of the 2005 Position Development Conference. J Clin Densitom. 2006 Jan-Mar;9(1):4-14. [PubMed](#)

Florence R, Allen S, Benedict L, Compo R, Jensen A, Kalogeropoulou D, Kearns A, Larson S, Mallen E, O'Day K, Peltier A, Webb B. Diagnosis and treatment of osteoporosis. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2013 Jul. 87 p. [210 references]

Riggs BL, O'Fallon WM, Muhs J, O'Connor MK, Kumar R, Melton LJ. Long-term effects of calcium supplementation on serum parathyroid hormone level, bone turnover, and bone loss in elderly women. J Bone Miner Res. 1998 Feb;13(2):168-74. [PubMed](#)

World Health Organization (WHO). WHO scientific group on the assessment of osteoporosis at primary health care level. Summary Meeting Report. Brussels (Belgium): World Health Organization (WHO); 2004 May 5-7. 17 p.

## Primary Health Components

Osteoporosis; risk factors; preventive care visit

## Denominator Description

Number of patients age 18 years and older with a preventive visit in the last 12 months (see the related "Denominator Inclusions/Exclusions" field)

## Numerator Description

Number of patients age 18 years and older who were assessed for risk factors for osteoporosis during an annual preventive visit

## Evidence Supporting the Measure

### Type of Evidence Supporting the Criterion of Quality for the Measure

A clinical practice guideline or other peer-reviewed synthesis of the clinical research evidence

## Additional Information Supporting Need for the Measure

- Of the types of fractures, the most devastating effects are from hip fractures. Most of these occur after a fall, which are more frequent with aging. The one-year mortality rate of a hip fracture is approximately 28% in women and 35% in men (U.S. Department of Health and Human Services, 2004). Some, but not all, of these deaths would be avoided with preventive interventions. Twenty-five percent of these patients will become disabled, and many will require long-term nursing home placement (Ray, 1997). Given the aging population, the frequency, cost and burden of fractures will continue to increase.
- Annual direct care expenditures for osteoporotic fractures ranged from \$12.2 billion to \$17.9 billion in 1999. This constitutes 7% of total health care costs for women over the age of 45 (Hoerger, 1999).
- It is estimated that 50% of women over age 50 will develop a fracture in their remaining lifetime and the annualized risk increases with age. Twenty-five percent of women over age 50 will experience an osteoporotic vertebral fracture, so that by age 75 more than one in three women has sustained at least one vertebral fracture.

## Evidence for Additional Information Supporting Need for the Measure

Florence R, Allen S, Benedict L, Compo R, Jensen A, Kalogeropoulou D, Kearns A, Larson S, Mallen E, O'Day K, Peltier A, Webb B. Diagnosis and treatment of osteoporosis. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2013 Jul. 87 p. [210 references]

U.S. Department of Health and Human Services (DHHS), Office of the Surgeon General. Bone health and osteoporosis: a report of the Surgeon General. Rockville (MD): U.S. Department of Health and Human Services (DHHS); 2004.

## Extent of Measure Testing

Unspecified

## State of Use of the Measure

### State of Use

Current routine use

### Current Use

not defined yet

## Application of the Measure in its Current Use

### Measurement Setting

Ambulatory/Office-based Care

### Professionals Involved in Delivery of Health Services

not defined yet

## Least Aggregated Level of Services Delivery Addressed

Clinical Practice or Public Health Sites

## Statement of Acceptable Minimum Sample Size

Unspecified

## Target Population Age

Age greater than or equal to 18 years

## Target Population Gender

Female (only)

## National Strategy for Quality Improvement in Health Care

### National Quality Strategy Aim

Better Care

### National Quality Strategy Priority

Health and Well-being of Communities

Prevention and Treatment of Leading Causes of Mortality

## Institute of Medicine (IOM) National Health Care Quality Report Categories

### IOM Care Need

Staying Healthy

### IOM Domain

Effectiveness

## Data Collection for the Measure

### Case Finding Period

The time frame pertaining to data collection is monthly, quarterly, semi-annually or annually.

## Denominator Sampling Frame

Patients associated with provider

## Denominator (Index) Event or Characteristic

Encounter

Patient/Individual (Consumer) Characteristic

## Denominator Time Window

not defined yet

## Denominator Inclusions/Exclusions

Inclusions

Number of patients age 18 years and older with a preventive visit in the last 12 months

Population Definition: Female patients age 18 years and older.

Exclusions

Unspecified

## Exclusions/Exceptions

not defined yet

## Numerator Inclusions/Exclusions

Inclusions

Number of patients age 18 years and older who were assessed for risk factors for osteoporosis during an annual preventive visit

Exclusions

Unspecified

## Numerator Search Strategy

Fixed time period or point in time

## Data Source

Electronic health/medical record

## Type of Health State

Does not apply to this measure

## Instruments Used and/or Associated with the Measure

Unspecified

## Computation of the Measure

### Measure Specifies Disaggregation

Does not apply to this measure

### Scoring

Rate/Proportion

### Interpretation of Score

Desired value is a higher score

### Allowance for Patient or Population Factors

not defined yet

### Standard of Comparison

not defined yet

## Identifying Information

### Original Title

Percentage of patients who were assessed for risk factors for osteoporosis during an annual preventive visit.

### Measure Collection Name

Diagnosis and Treatment of Osteoporosis

### Submitter

Institute for Clinical Systems Improvement - Nonprofit Organization

### Developer

Institute for Clinical Systems Improvement - Nonprofit Organization

### Funding Source(s)

The Institute for Clinical Systems Improvement's (ICSI's) work is funded by the annual dues of the member medical groups and five sponsoring health plans in Minnesota and Wisconsin.

## Composition of the Group that Developed the Measure

*Work Group Members:* Robert Florence, MD, FACP, CDD (*Work Group Leader*) (Allina Medical Clinic) (Internal Medicine); Luke Benedict, MD (Allina Medical Clinic) (Endocrinology); Sarah Larson (Allina Medical Clinic) (Radiology); Kathryn O'Day, MD (Allina Medical Clinic) (Endocrinology); Renee Compo, RN, CNP (HealthPartners Medical Group and Regions Hospital) (Nursing); Amanda Jensen, RTR (HealthPartners Medical Group and Regions Hospital) (Radiology); Dionysia Kalogeropoulou, MD (HealthPartners Medical Group and Regions Hospital) (Endocrinology); Amber Peltier, PharmD (HealthPartners Medical Group and Regions Hospital) (Pharmacy); Ann Kearns, MD, PhD (Mayo Clinic) (Endocrinology); Sharon Allen, MD (University of Minnesota Physicians) (Family Medicine); Emily Mallen, MBA (Institute for Clinical Systems Improvement [ICSI]) (Project Manager); Beth Webb, RN, BA (ICSI) (Project Manager)

## Financial Disclosures/Other Potential Conflicts of Interest

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Where there are work group members with identified potential conflicts, these are disclosed and discussed at the initial work group meeting. These members are expected to recuse themselves from related discussions or authorship of related recommendations, as directed by the Conflict of Interest committee or requested by the work group.

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### Disclosure of Potential Conflicts of Interest

Sharon Allen, MD (Work Group Member)

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National, Regional, Local Committee Affiliations: None

Guideline-Related Activities: None

Research Grants: Programmatic support from the National Institute on Drug Abuse (NIDA) – Nicotine dependence in pregnancy and post partum. Money to institution, none to individual member.

Financial/Non-financial Conflicts of Interest: None

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Guideline-Related Activities: None

Research Grants: None

Financial/Non-financial Conflicts of Interest: Paid participant of a study evaluating efficacy of a blood glucose meter in identifying trends in blood sugars

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Financial/Non-financial Conflicts of Interest: None

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Research Grants: None

Financial/Non-financial Conflicts of Interest: None

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Research Grants: None

Financial/Non-financial Conflicts of Interest: None

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Guideline-Related Activities: None

Research Grants: Fairview Physicians Associates – None

Financial/Non-financial Conflicts of Interest: None

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National, Regional, Local Committee Affiliations: None

Guideline-Related Activities: None

Research Grants: Thrasher Research Foundation – None

Financial/Non-financial Conflicts of Interest: None

## Adaptation

This measure was not adapted from another source.



## Date of Most Current Version in NQMC

2013 Jul

## Measure Maintenance

Scientific documents are revised every 12 to 24 months as indicated by changes in clinical practice and literature.

## Date of Next Anticipated Revision

The next scheduled revision will occur within 24 months.

## Measure Status

This is the current release of the measure.

The measure developer reaffirmed the currency of this measure in January 2016.

## Measure Availability

Source available for purchase from the [Institute for Clinical Systems Improvement \(ICSI\) Web site](#)

. Also available to ICSI members for free at the [ICSI Web site](#)

and to Minnesota health care organizations free by request at the [ICSI Web site](#)

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For more information, contact ICSI at 8009 34th Avenue South, Suite 1200, Bloomington, MN 55425; Phone: 952-814-7060; Fax: 952-858-9675; Web site: [www.icsi.org](http://www.icsi.org) ; E-mail: [icsi.info@icsi.org](mailto:icsi.info@icsi.org).

## NQMC Status

This NQMC summary was completed by ECRI Institute on April 9, 2014.

The information was reaffirmed by the measure developer on January 13, 2016.

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# Production

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